

REMARKS

Applicant has carefully reviewed and considered the Final Office Action mailed on September 26, 2005, and the references cited therewith. This first reply is being filed within two months of the mailing date of the Final Office Action. November 26 2005, is a Saturday, resulting in a 2-month date of Monday, November 28, 2005.

Claims 1-10, 12, and 34-35 were previously cancelled. Claims 22 and 43-45 are currently amended. Claim 41 is cancelled. New claim 46 was added to more fully claim the described invention. As a result, claims 11, 13-33, 36-40, and 42-46 are now pending in this application. The amendments to claims 22 and 43 is supported on page 66 lines 1-8, and page 18 line 24 to page 19 line 15. Claims 44 and 45 are amended to add missing periods. New claim 46 is supported by page 33, lines 5-7, in the original specification.

Claim Rejections – USC § 103

In Section 4 of the September 26, 2005 Office Action, claims 11, 13-15, 18-24, 31, 33, 39-40, and 42-43 were rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over OVSHINSKY et al. (US 5,411,592) in view of MITLITSKY et al. (US 5,714,404). Applicant respectfully traverses, since neither reference describes or suggests ion-assist energy.

In the prior Office Action, the Examiner stated, "*It is noted that sputtering and laser ablation are ion-assist deposition techniques.*" without providing or citing a reference. Applicant traversed and respectfully requested under MPEP 2144.03 that the Examiner provide a reference in support of the unsupported assertion. This request was ignored. Further, the Examiner admitted once again in the present Final Office Action on page 6, line 2, that, "Ovshinsky et al do not expressly disclose the specific ion-assist energy technique." In the present Final Office Action, the Examiner dropped the assertion about ion assist, but did not offer any argument or concession regarding the limitation in claim 11 regarding the ion-assist energy technique. The Examiner on page 6 line 19, states that it would have been obvious to use the specific ion-assist energy technique of MITLITSKY. Applicant disagrees since

MITLITSKY uses laser pulses to re-crystallize a layer of a photovoltaic, not ion-assist energy to aid in crystalline layer formation while controlling a stoichiometry of the crystalline layer without substantially heating the substrate, wherein the layer is part of a battery. MITLITSKY neither mentions nor suggests a battery. MITLITSKY's laser pulses provide photon energy measured in frequency, time duration, and Jcm^{-2} ; in contrast, ion-assist energy includes ion particles with an energy measured in eV. Thus, the Examiner has failed to provide a *prima facie* case for anticipation of the claim as a whole, and the Applicant respectfully requests that the Examiner withdraw the rejection of claims 11, amended claims 22 and 42, and all of their respective dependent claims.

With respect to independent claims 11, 21, and 43, neither OVSHINSKY nor MITLITSKY describes nor suggests deposition of a photovoltaic cell on the battery. OVSHINSKY at column 11, lines 39-43, describes having a stainless steel substrate (not a low-temperature substrate) with amorphous silicon solar cells on one side and depositing these thin-film batteries onto the stainless steel substrates on the opposite side of the solar cells (column 11, lines 39-43). In contrast, the present invention describes and claims "a deposition station that deposits a photovoltaic cell on the battery." OVSHINSKY describes a solar cell on one side of the substrate and a battery on the other side of the substrate, not a solar cell or photovoltaic cell on the battery. Thus, independent claims 11, 21, and 43, and all of their dependent claims (13-20, 32-33, 39-42, 44 and 46) distinguish over the cited combination of references. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

In Section 5 of the September 26, 2005 Office Action, claims 11, 13-33, and 36-45 were rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over SHUL et al. (US 6,432,577) in view of MITLITSKY et al. (US 5,714,404). Applicant respectfully traverses.

SHUL describes a microbattery (Title), and not a thin-film device as claimed. None of the cited references describe nor suggest a "deposition station that deposits a photovoltaic cell on the battery." Thus, independent claims 11, 21, and 43 and their respective dependent claims

distinguish over the cited combination of references. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Further, as described above, MITLITSKY does not describe nor suggest ion-assist energy to assist in crystalline layer formation, nor formation of a battery layer. Neither does SHUL describe ion-assist energy to assist crystalline layer formation. Thus, amended independent claim 22 and its dependent claims also distinguish over the cited combination of references. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

In Section 6 of the September 26, 2005 Office Action, claims 11, 20-22, and 43 were rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over Japanese document JP 62-044960 in view of MITLITSKY et al. (US 5,714,404). Applicant respectfully traverses.

Neither of these references describes nor suggests the “deposition station that deposits a photovoltaic cell on the battery.” Thus, independent claims 11, 21, and 43 and their respective dependent claims distinguish over the cited combination of references. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Further, as described above, MITLITSKY does not describe nor suggest ion assist energy to assist in the crystallization formation. Examiner admits that JP 62-044960 does not expressly disclose the specific ion-assist energy technique. Thus, independent claims 22 and its dependent claims distinguish over the cited combination of references. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

In Section 7 of the September 26, 2005 Office Action, claims 11, 13-15, 18-24, 31, 33, 39-40, and 42-43 were rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over OVSHINSKY et al. (US 5,411,592) in view of MUFOLETTA et al. (US 6,599,580) and in further view of MITLITSKY et al. (US 5,714,404). Applicant respectfully traverses.

As admitted by the Examiner in the Final Office Action on page 14, lines 17-18, “Additionally, neither Ovshinsky et al nor MUFOLETTA et al expressly disclose the formation of crystallization.” As described above, MITLITSKY does not describe nor suggest ion-assist

energy to assist in the crystallization, and MITLITSKY also does not describe nor suggest formation of a battery. The combination of the cited references does not disclose or suggest the claimed invention. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

In Section 8 of the September 26, 2005 Office Action, claims 11, 13-33, and 36-45 were rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over SHUL et al. (US 6,432,577) in view of MUFFOLETTO et al. (US 6,599,580) and further in view of MITLITSKY et al. (US 5,714,404). Applicant respectfully traverses.

The Examiner states in the Final Office Action on page 18, lines 7-8, “Additionally, neither Shul et al nor Muffoletto et al expressly disclose the formation of crystallization.” As described above, MITLITSKY does not describe nor suggest ion-assist energy to assist in the crystallization, and MITLITSKY also does not describe nor suggest formation of a battery. Thus, the combination of the cited references does not disclose the claimed invention. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

In Section 9 of the September 26, 2005 Office Action, claims 11, 20-22, and 43 were rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over the Japanese document JP 62-044960 in view of MUFFOLETTO et al. (US 6,599,580) and further in view of MITLITSKY et al. (US 5,714,404). Applicant respectfully traverses.

The Examiner admits in the Final Office Action on page 20, lines 11-12, “Additionally, neither JP'960 publication nor Muffoletto et al expressly disclose the formation of crystallization.” As described above, MITLITSKY does not describe nor suggest ion-assist energy to assist in crystallization, and MITLITSKY also does not describe nor suggest formation of a battery. The combination of the cited references does not disclose the claimed invention. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

In Section 10 of the September 26, 2005 Office Action, claim 32 was rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over the combinations or:

- (a) OVSHINSKY et al. (US 5,411,592) in view of MITLITSKY et al. (US 5,714,404);
- (b) SHUL et al. (US 6,432,577) in view of MITLITSKY et al. (US 5,714,404);
- (c) the Japanese document JP 62-044960 in view of MITLITSKY et al. (US 5,714,404);
- (d) OVSHINSKY et al. (US 5,411,592) in view of MUFFOLETTO et al. (US 6,599,580)

and further in view of MITLITSKY et al. (US 5,714,404);

(e) SHUL et al. (US 6,432,577) in view of MUFFOLETTO et al. (US 6,599,580) and further in view of MITLITSKY et al. (US 5,714,404); and/or

(f) the Japanese document JP 62-044960 in view of MUFFOLETTO et al. (US 6,599,580) and further in view of MITLITSKY et al. (US 5,714,404) as applied to claim 11 above, and further in view of MATSUI et al. (US 5,558,953).

Applicant respectfully traverses. Applicant objects to the Examiners use of six alternative rejection bases, five of which the Examiner admits do not disclose lithium cobalt oxide. Further, the need for alternative combinations is not adequately justified by the Examiner.

Claim 32 depends on claim 11, and appears in condition for the reasons provided above for claim 11. Further, MATSUI does not describe a photovoltaic cell on the battery, with the claimed combination of claim 32. Additionally, neither MUFFOLETTO nor MITLITSKY describe nor suggest ion assist energy to assist in the crystallization formation. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (952-278-3501) to facilitate prosecution of this application.

If not otherwise provided herewith, please consider this a request for an extension of time for a sufficient number of months to enter these papers. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 502931.

Respectfully submitted,

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Date

28 Nov 2005

By

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Date of Deposit: **November 28, 2005**

This correspondence is being deposited on the date indicated above with the United States Postal Service pursuant to 37 CFR 1.10, and is addressed to: Mail Stop Amendment, Commissioner for Patents, P.O.Box 1450, Alexandria, VA 22313-1450